REISSUE PATENTS

JANUARY 1977 -- DECEMBER 1996



April 1997 U.S. PATENT AND TRADEMARK OFFICE OFFICE OF ELECTRONIC INFORMATION PRODUCTS/ TAF PROGRAM PK3 - SUITE 441, WASHINGTON, DC 20231 TEL (703) 306-2600/ FAX (703) 306-2737

A TECHNOLOGY ASSESSMENT AND FORECAST REPORT

This Technology Assessment and Forecast (TAF) Program Report profiles patent activity for U.S. reissue patents (hereafter referred to as patents) granted between 1977 and December 1996. The source of the data used for this report is the TAF data base maintained by the Office of Electronic Information Products.

Data Distribution By Date of Grant and By Date of Application

Parts A1 and A2

Part A1 distributes patent GRANT data by year of patent grant ("Patents Granted By Date of Patent Grant"). Part A2 distributes grant data by the year in which the patented application was filed ("Patents Granted By Date of Patent Application"). Parts A1 and A2 each provide patent counts (pages A1-1 and A2-1) and percent distributions (pages A1-2 and A2-2).

Patent data in the "Pre 1983" column corresponds to the period January 1, 1977 through December 31, 1982.

Part B

Part B of this report distributes patent GRANT data for organizations that have received U.S. patents since 1977. Data are presented by the year in which the patent was granted ("Patents By Year of Grant") and the year the patented application was filed ("Patents by Year of Application").

DATA FOR THOSE APPLICATIONS WHICH WERE FILED BUT NEVER ISSUED (ROUGHLY 40% OF TOTAL FILINGS) ARE NOT INCLUDED IN THIS REPORT.

Since the average time period between filing for a patent and the issuing of the patent (i.e., a patent's "pendency") is now about 21 months, the patented application data for the most recent years are incomplete.* This is because a significant number of the applications filed in the most recent years, which will ultimately become patents, were still pending in December 1996. Since they had not yet become patents at the time this report was prepared, they were not included in this report.

Patented application data are of significant value since the date an application was filed more accurately reflects when the technology was developed. Additionally, fluctuations in data based on application date are much more likely to reflect changes in technological activity, since such fluctuations would for the most part be immune from changes in PTO processing such as occurred in 1986 when the PTO issued fewer patents than would normally have been expected due to a lack of funds to print patents. Note that a patent's "pendency" can be quite variable from one patent to another thereby affecting the date of patent grant. Such variation in pendency is determined by many factors, including PTO

workload (which varies between technologies), budget and manpower levels, patent printing schedules, etc.

Parts of the Report

Parts A1 and A2 present tables which show, by number and percent, the patent activity. Part A1 presents data by year of patent grant ("Patents Granted by Date of Patent Grant"). Part A2 redistributes grant data by year of patent application ("Patents Granted by Date of Patent Application"). The location of patent origin is determined by the residence of the first-named inventor at the time of grant.

Information on **patent ownership** reflects ownership at the time of patent grant and does not include subsequent changes in ownership. If more than one assignee was declared at the time of grant, the patent is attributed to the first-named assignee. The U.S. and Foreign Corporations ownership categories count predominantly corporate patents; however, patents assigned to other organizations such as small businesses, nonprofit organizations, universities, etc. are also included in this category. While U.S. Government patent ownership includes only patents granted to the Federal Government, no such distinction is made for Foreign Government patents.

Part B is a ranked listing of national and international organizations (i.e., corporations, universities, government agencies) which have received 10 or more U.S. reissue patents since 1977. Data line 1 for each listed organization distributes counts of patent grants by year of grant. Data line 2 for each organization redistributes those same patent grants by year in which the patented application was filed. Information on patent ownership reflects ownership at the time of patent grant. Although a substantial effort has been made to combine name variations into a single organizational name, many organizations continue to have patents listed under more than one organizational name.

1993. Currently, completion percentages restricted to reissue patents are not available.

^{*} As of December 31, 1996, UTILITY patent application data (most issued patent documents are utility patents) were approximately 93% complete for patent applications filed in 1993, 80% complete for applications filed in 1994, and 30% complete for applications filed in 1995. They are essentially complete for applications filed prior to

Part A1
Patent Grants As Distributed By Year of Patent Grant

REISSUE PATENTS, 1977 - 1996

Page Al- 1

															5 -		
		Datente	Granted	By Da	to Of	Datent	Grant (Granted:	.Tan 01	1977 _	Dec 31	1996)					
		racciics	Grancea	Бу Ба	ice or	racciic	Granc (Grancea.	Jan Ji,	17//	Dec Ji,	1000					
							NT	MBER OF	DATENTS								
	Pre 1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total	
	PIE 1903	1903	1904	1903	1900	1907	1900	1909	1990	1991	1332	1993	1994	1993	1990	IUCAI	
Total	2004	362	300	276	260	245	244	317	370	263	360	332	317	316	279	6245	
	1476		210							171	231		194		175	4298	
U.S. Origin	528	269		194 82	183	160	167 77	212	241			207		208			
Foreign Origin	528	93	90	82	77	85	//	105	129	92	129	125	123	108	104	1947	
T 7 D 7 3 T	120	20	2.5	20	26	2.2	20	4.0	Ε0.	F 2		C1	Ε0	C1	40	774	
JAPAN	139	28	35	29	26	33	28	49	58	53	66	61	59	61 9	49	774	
GERMANY	99	19	18	21	16	11	20	16	15	8	19	13	18		9	311	
UNITED KINGDOM	80	15	12	9	8	13	8	15	12	4 5	10	16	11	6	11	230	
FRANCE	42	4	1	5	10	3	1	6	9		4	9	7	3	9	118	
CANADA	35	4	4	2	2	3	2	5	9	6	5	6	9	5	5	102	
NETHERLANDS	24	3	1	2	4	5	5	2	2	5	6	3		4	3	69	
SWITZERLAND	16	3	8	1	3	3	6	1	6	3	4	2	2	3	5	66	
SWEDEN	27	5	2	4		3	1	1	3	2	3	3	1	1	1	57	
ITALY	18	2	1	2	2	2	1	1	3	3	1	1	2	4	4	47	
AUSTRALIA	11	1	1	1	2		1	1	1	1	3	1	4	1	1	30	
DENMARK	4	4	2	2	1		1		2		1	1	2			20	
ISRAEL	3				1	2		3	3			1		1	2	16	
BELGIUM	10			1				1	2		1					15	
NORWAY	5	1	2	1	1	1	2					1				14	
AUSTRIA	3	3				1			1		2	2	1	1		14	
FINLAND		1	1			1		1	1		1	1		2		9	
NEW ZEALAND	2		1	1	1				2						1	8	
TAIWAN						1	1				2	1	2	1		8	
S. AFRICA	2							1				1				4	
SPAIN	1												2	1		4	
INDONESIA				1										2	1	4	
SOUTH KOREA												1		1	2	4	
LIECHTENSTEIN	1													1		2	
BRAZIL			1					1								2	
HUNGARY	1					1										2	
HONG KONG						1						1				2	
LUXEMBOURG								1		1						2	
CZECHOSLOVAKIA	2															2	
ARGENTINA													2			2	
RUSSIAN FEDERATION														1	1	2	
GREECE	1															1	
IRELAND										1						1	
THAILAND											1					1	
MEXICO	1															1	
CHILE	1															1	
PERU													1			1	
Others (1)						1										1	
Ownership:																	
U.S. Corporations	1262	232	165	161	148	132	126	165	185	133	188	156	152	164	134	3503	
U.S. Government	5		2		2		1			1	2	3	1	1		18	
U.S. Individuals	259	45	51	35	37	36	40	51	61	44	47	52	45	49	46	898	
Foreign Corporations	394	73	69	70	66	69	70	85	107	78	112	105	110	96	91	1595	
Foreign Government	2	3	1	1	1		1	2	3		2	3	1		1	21	
Foreign Individuals	82	9	12	9	6	8	6	14	14	7	9	13	8	6	7	210	
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REISSUE PATENTS, 1977 - 1996

Page A1- 2

							PE	RCENT OF	PATENTS							
	Pre 1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total
al	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
.S. Origin	74	74	70	70	70	65	68	67	65	65	64	62	61	66	63	69
oreign Origin	26	26	30	30	30	35	32	33	35	35	36	38	39	34	37	31
JAPAN	7	8	12	11	10	13	11	15	16	20	18	18	19	19	18	12
GERMANY	5	5	6	8	6	4	8	5	4	3	5	4	6	3	3	5
UNITED KINGDOM	4	4	4	3	3	5	3	5	3	2	3	5	3	2	4	4
FRANCE	2	1		2	4	1		2	2	2	1	3	2	1	3	2
CANADA	2	1	1	1	1	1	1	2	2	2	1	2	3	2	2	2
NETHERLANDS	1	1		1	2	2	2	1	1	2	2	1		1	1	1
SWITZERLAND	1	1	3		1	1	2		2	1	1	1	1	1	2	1
SWEDEN	1	1	1	1	-	1			1	1	1	1				1
ITALY	1	1	-	1	1	1			1	1	-	-	1	1	1	1
AUSTRALIA	1	_			1	_			_	_	1		1		_	0
DENMARK	_	1	1	1	_				1		_		1			0
ISRAEL		1	Τ.	Т		1		1	1				Τ.		1	(
						1		1	1						1	(
BELGIUM			-				1		1							
NORWAY			1				1					-				(
AUSTRIA		1									1	1		_		(
FINLAND														1		(
NEW ZEALAND									1							(
TAIWAN											1		1			(
S. AFRICA																(
SPAIN													1			(
INDONESIA														1		(
SOUTH KOREA															1	(
LIECHTENSTEIN																(
BRAZIL																(
HUNGARY																(
HONG KONG																(
LUXEMBOURG																(
CZECHOSLOVAKIA																(
ARGENTINA													1			(
													1			(
RUSSIAN FEDERATION																(
GREECE																
IRELAND																(
THAILAND																(
MEXICO																(
CHILE																(
PERU																(
Others (1)																C
ership:																
.S. Corporations	63	64	55	58	57	54	52	52	50	51	52	47	48	52	48	56
.S. Government			1		1						1	1				C
.S. Individuals	13	12	17	13	14	15	16	16	16	17	13	16	14	16	16	14
			0.0	25	25	28	29	27	29	30	31	32	35	30	33	26
reign Corporations	20	20	23	∠5	25	20	29	41	29	30	31	34	33	30	33	20
oreign Corporations oreign Government	20	20 1	23	25	25	20	29	1	1	30	1	1	35	30	33	20

Part A2 Patent Grants As Distributed By Year of Patent Application

REISSUE PATENTS, 1977 - 1996

Page A2- 1

	Pat	tents Gr	anted B	v Date	Of Pat	ent. App	lication	(Grant	ed: Jan	01, 1977	- Dec 3	1. 1996)					
	100	201105 01	ancea 2	, Date	01 140	.0110 1191	11000101	(010110	ou ouii	01, 13	500 3	1, 1330,					
								F PATENT									
	Pre 1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	Total	
Total	2889	214	221	224	252	276	303	360	339	338	319	266	196	46	2	6245	
U.S. Origin	2099	156	158	161	168	183	192	229	213	205	206	171	127	29	1	4298	
Foreign Origin	790	58	63	63	84	93	111	131	126	133	113	95	69	17	1	1947	
JAPAN	231	21	18	26	35	52	44	73	67	62	56	44	36	9		774	
GERMANY	151	13	15	12	18	13	10	15	17	16	12	13	5	1		311	
UNITED KINGDOM	114	7	11	3	12	6	19	12	7	8	12	11	7	1		230	
FRANCE	54	4	2	5	1	6	8	5	10	7	5	6	2	3		118	
CANADA	46	2	2	2	4	1	7	7	7	9	5	5	4	1		102	
NETHERLANDS	31	4	3	4	2	2	6	1	5	4	5		1	1		69	
SWITZERLAND	30		3	1	4	4	5	5	2	2	3	2	5			66	
SWEDEN	36	1	2	1	3	1	1	3	3	3	1		1		1	57	
ITALY	24	2		1		2	3	3	1	3	4	2	1	1		47	
AUSTRALIA	14		2	1			1	2	2	6	1		1			30	
DENMARK	12	1			1			1	1	2		2				20	
ISRAEL	3		1	3	1	1	3	1	1		1	1				16	
BELGIUM	11						2		2							15	
AUSTRIA	6			1		1				2	3	1				14	
NORWAY	9		2	1	1						1					14	
FINLAND	1	1	1	1		1	1		1		1	1				9	
TAIWAN	1					1		1		2	2	1				8	
NEW ZEALAND	4		1				1	1					1			8	
S. AFRICA	2				1					1						4	
SPAIN	1									1		1	1			4	
INDONESIA		1								1		1	1			4	
SOUTH KOREA										1		2	1			4	
BRAZIL	2															2	
LIECHTENSTEIN	1												1			2	
CZECHOSLOVAKIA	2															2	
HONG KONG				1							1					2	
LUXEMBOURG						2										2	
ARGENTINA										1		1				2	
HUNGARY	1	1														2	
RUSSIAN FEDERATION												1	1			2	
CHILE	1															1	
IRELAND								1								1	
GREECE	1															1	
THAILAND										1						1	
PERU										1						1	
MEXICO	1															1	
Others (1)					1											1	
Ownership:																	
U.S. Corporations	1780	127	128	139	125	147	144	174	162	164	158	139	93	22	1	3503	
U.S. Government	9	14,	120	137	1	11/		1	4	1	1	1	,,	22	_	18	
U.S. Individuals	381	30	32	27	43	40	58	57	52	48	49	37	35	9		898	
J.D. IIIdIVIduaIB	301	50	22	۷,	43	-10	50	5,	22	40	ユノ	57	33	,		370	
Foreign Corporations	602	51	56	51	72	80	90	109	107	113	103	83	63	14	1	1595	
Foreign Government	7		1		1	1	2	3	1	2	1	1		1		21	
Foreign Individuals	110	6	4	7	10	8	9	16	13	10	7	5	5			210	

REISSUE PATENTS, 1977 - 1996 Page A2- 2

	Pat	ents Gr	anted B	y Date	Of Pat	ent App	lication	(Grant	ed: Jan	01, 1977	- Dec 3	1, 1996)				
						_	ED CENTER O	E Dames	ED APPLT	CARTONC						
	 Pre 1983	1983	1984	1985	1986	P	ERCENT O	1989	ED APPLI 1990	1991	1992	1993	1994	1995	1996	Total
	FIC 1905	1703	1704	1703	1700	1007	1700	1000	1000	1001	1002	1000	1004	1000	1000	TOCAL
tal	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100
U.S. Origin	73	73	71	72	67	66	63	64	63	61	65	64	65	63	50	69
Foreign Origin	27	27	29	28	33	34	37	36	37	39	35	36	35	37	50	31
JAPAN	8	10	8	12	14	19	15	20	20	18	18	17	18	20		12
GERMANY	5	6	7	5	7	5	3	4	5	5	4	5	3	2		5
UNITED KINGDOM FRANCE	4 2	3 2	5 1	1 2	5	2 2	6 3	3 1	2	2	4 2	4 2	4 1	2 7		4 2
CANADA	2	1	1	1	2	۷	2	2	2	3	2	2	2	2		2
NETHERLANDS	1	2	1	2	1	1	2	2	1	1	2	2	1	2		1
SWITZERLAND	1	2	1	۷	2	1	2	1	1	1	1	1	3	۵		1
SWEDEN	1		1		1	-	-	1	1	1	-	-	1		50	1
ITALY	1	1	=		_	1	1	1	_	1	1	1	1	2		1
AUSTRALIA			1					1	1	2			1			0
DENMARK										1		1				0
ISRAEL				1			1									0
BELGIUM							1		1							0
AUSTRIA										1	1					0
NORWAY			1													0
FINLAND																0
TAIWAN										1	1		_			0
NEW ZEALAND													1			0
S. AFRICA SPAIN													1			0
INDONESIA													1			0
SOUTH KOREA												1	1			0
BRAZIL												_	_			0
LIECHTENSTEIN													1			0
CZECHOSLOVAKIA																0
HONG KONG																0
LUXEMBOURG						1										0
ARGENTINA																0
HUNGARY																0
RUSSIAN FEDERATION													1			0
CHILE																0
IRELAND																0
GREECE																0
THAILAND PERU																0
MEXICO																0
Others (1)																0
COLLEGE (I)																0
nership:																
U.S. Corporations	62	59	58	62	50	53	48	48	48	49	50	52	47	48	50	56
U.S. Government									1							0
U.S. Individuals	13	14	14	12	17	14	19	16	15	14	15	14	18	20		14
Foreign Corporations	21	24	25	23	29	29	30	30	32	33	32	31	32	30	50	26
Foreign Government							1	1		1				2		0
Foreign Individuals	4	3	2	3	4	3	3	4	4	3	2	2	3			3

Part B

Ranked Listing of Organizations with Patent Grants
As Distributed By Year of Patent Grant
and As Distributed By Year of Patent Application

REISSUE PATENTS, 1977 - 1996

Page B - 1

Organizational Patenting			(Gra	nted: Ja	ın 01, 19	977 - Dec	31, 199	(6)	Ranked	l List of	Organiz	ations w	vith 10	or More	Patents	3	
	Pre																
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
HITACHI, LTD																	
Patents By Year of Grant:	1	1	2	2	7	6	2	11	13	7	7	13	4	4	3	83	
Patents By Year of Application:	7	5	1	6	5	14	4	13	9	12	6	1	0	0	0	83	
GENERAL ELECTRIC COMPANY																	
Patents By Year of Grant:	16	3	5	6	5	2	2	1	3	6	5	8	2	3	2	69	
Patents By Year of Application:	33	0	4	1	2	2	0	7	5	7	2	2	2	2	0	69	
AT&T CORP.																	
Patents By Year of Grant:	16	8	3	2	4	2	2	4	4	5	1	2	4	2	0	59	
Patents By Year of Application:	29	0	3	6	2	5	1	4	1	1	6	1	0	0	0	59	
MINNESOTA MINING AND MANUFACTURING CO	MPANY																
Patents By Year of Grant:	10	1	3	3	4	1	0	1	4	0	1	2	3	7	2	42	
Patents By Year of Application:	15	2	3	1	2	1	3	2	2	0	5	5	1	0	0	42	
E. I. DU PONT DE NEMOURS AND COMPANY																	
Patents By Year of Grant:	21	3	2	2	2	2	0	2	0	2	1	0	2	0	1	40	
Patents By Year of Application:	27	1	0	2	3	2	1	0	0	1	2	0	1	0	0	40	
EASTMAN KODAK COMPANY																	
Patents By Year of Grant:	18	1	2	3	5	3	2	0	1	0	2	0	1	1	1	40	
Patents By Year of Application:	21	3	3	4	2	1	1	1	1	1	0	0	2	0	0	40	
INTERNATIONAL BUSINESS MACHINES CORPO	RATION																
Patents By Year of Grant:	10	0	5	0	4	1	0	0	1	1	7	0	2	1	3	35	
Patents By Year of Application:	16	1	1	2	0	2	2	3	2	3	0	0	3	0	0	35	
BAYER AKTIENGESELLSCHAFT																	
Patents By Year of Grant:	12	2	4	1	1	0	3	2	2	1	2	0	3	1	0	34	
Patents By Year of Application:	18	0	3	2	1	2	1	2	0	1	1	3	0	0	0	34	
CATERPILLAR INC.																	
Patents By Year of Grant:	17	4	2	2	0	1	0	1	0	1	1	0	0	0	1	30	
Patents By Year of Application:	24	1	0	0	1	0	1	0	1	1	0	0	1	0	0	30	
RCA CORPORATION																_	
Patents By Year of Grant:	16	5	2	1	3	3	0	0	0	0	0	0	0	0	0	30	
Patents By Year of Application:	27	0	0	3	0	0	0	0	0	0	0	0	0	0	0	30	
CANON KABUSHIKI KAISHA																	
Patents By Year of Grant:	12	2	0	0	0	1	0	0	3	2	1	1	1	2	4	29	
Patents By Year of Application:	15	0	1	0	1	0	2	2	2	1	2	2	0	1	0	29	

Organizational Patenting	Pre		(Gra	nted: Ja	n 01, 19	77 - Dec	31, 199	6)	Ranked	List of	Organiz	ations w	ith 10	or More	Patents		
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
U.S. PHILIPS CORPORATION	1.0		•				•									0.0	
Patents By Year of Grant: Patents By Year of Application:	13 19	1 0	2	0	1	1	0	2	0 2	1	4	1	1	1	0	28 28	
ratelits by leaf of Application.	19	U	U	U	U	U	2	1	2	Τ.	3	U	U	U	U	20	
DOW CHEMICAL COMPANY																	
Patents By Year of Grant:	11	3	0	1	1	1	2	1	1	1	1	0	3	0	0	26	
Patents By Year of Application:	16	1	0	2	1	0	1	1	0	1	3	0	0	0	0	26	
MITSUBISHI DENKI KABUSHIKI KAISHA	1	0	0	0	1	0	1	1	-	0	1	2		0	2	0.6	
Patents By Year of Grant: Patents By Year of Application:	1	0	0	0	1	0 2	2	2	5 4	2	1 5	3	6 1	2	3	26 26	
racents by rear of Application:	1	U	1	U	1	2	2	2	4	5	5	2	1	U	U	20	
EATON CORPORATION																	
Patents By Year of Grant:	16	1	2	0	1	0	1	0	0	1	0	1	1	0	0	24	
Patents By Year of Application:	19	0	0	1	1	0	0	1	0	1	1	0	0	0	0	24	
SONY CORPORATION	_												-			0.1	
Patents By Year of Grant:	5 5	0 1	1	0 2	1	1	1 2	0 4	4	2 1	0 1	0 2	3 1	1	2	21 21	
Patents By Year of Application:	5	1	U	2	1	U	2	4	U	1	1	2	1	1	U	21	
XEROX CORPORATION																	
Patents By Year of Grant:	7	0	2	3	2	1	1	2	2	0	1	0	0	0	0	21	
Patents By Year of Application:	12	3	1	0	2	1	0	2	0	0	0	0	0	0	0	21	
MOTOROLA, INC.	_		•				•									0.0	
Patents By Year of Grant: Patents By Year of Application:	7 12	2 1	2	1	0	0	2	0	1	0 1	1	1	1	0	2	20 20	
racents by rear of Application:	12	1	U	1	U	U	1	U	1	1	1	1	1	U	U	20	
ALLIED-SIGNAL INC.																	
Patents By Year of Grant:	6	2	1	1	0	1	0	2	1	0	0	1	1	2	1	19	
Patents By Year of Application:	8	2	0	1	2	0	1	0	0	1	1	1	1	1	0	19	
ELI LILLY AND COMPANY								_	_								
Patents By Year of Grant: Patents By Year of Application:	10 13	3	0	0	2	2	0	0	1	0	0	0	0	1	0	19 19	
racents by rear of Application:	13	U	U	4	U	U	U	1	U	U	1	U	U	U	U	19	
MOBIL OIL CORP.																	
Patents By Year of Grant:	5	0	3	1	3	0	0	2	0	1	1	2	0	0	0	18	
Patents By Year of Application:	6	2	2	2	1	0	1	1	0	3	0	0	0	0	0	18	
TEXAS INSTRUMENTS, INCORPORATED								_			_	_					
Patents By Year of Grant:	2	2 2	0	3	0	0	0	0	3 2	1	1	1	1	2	2	18 18	
Patents By Year of Application:	4	۷	1	U	1	U	۷	3	۷	U	1	1	U	1	U	18	

Organizational Patenting			(Gra	nted: Ja	n 01, 19	77 - Dec	31, 199	6)	Ranked	l List of	Organiz	ations w	ith 10	or More	Patents		
	Pre																
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
UNISYS CORPORATION																	
Patents By Year of Grant:	11	2	0	3	0	1	0	0	1	0	0	0	0	0	0	18	
Patents By Year of Application:	16	1	0	0	0	0	0	1	0	0	0	0	0	0	0	18	
PHILLIPS PETROLEUM COMPANY																	
Patents By Year of Grant:	5	3	1	1	2	1	0	0	1	1	0	2	0	0	0	17	
Patents By Year of Application		1	1	1	0	0	0	1	1	1	1	0	0	0	0	17	
		_	_	_	•		-	_	_	_	_		•		•		
UNION CARBIDE CORPORATION																	
Patents By Year of Grant:	12	1	0	2	0	1	1	0	0	0	0	0	0	0	0	17	
-		2	0	1	1	0	0	0	0	0	0	0	0	0	0	17	
Patents By Year of Application	1.3	2	U	1	1	U	U	U	U	U	U	U	U	U	U	17	
AMD THEODRODAMID																	
AMP INCORPORATED	-					_		•		•		•				1.0	
Patents By Year of Grant:	7	1	0	0	1	3	1	0	2	0	0	0	1	0	0	16	
Patents By Year of Application	8	0	0	2	3	1	0	1	0	0	1	0	0	0	0	16	
BASF AKTIENGESELLSCHAFT																	
Patents By Year of Grant:	2	0	0	1	2	0	2	1	2	0	2	0	1	1	2	16	
Patents By Year of Application	4	1	0	0	1	1	2	1	2	0	1	1	2	0	0	16	
IMPERIAL CHEMICAL INDUSTRIES PLC																	
Patents By Year of Grant:	5	2	0	1	0	0	0	2	1	0	2	1	1	0	1	16	
Patents By Year of Application:	8	1	0	0	0	0	3	1	0	2	0	1	0	0	0	16	
MATSUSHITA ELECTRIC INDUSTRIAL CO.	, LTD.																
Patents By Year of Grant:	4	0	2	1	0	1	0	0	0	4	0	0	1	2	1	16	
Patents By Year of Application	8	0	0	0	0	0	1	3	0	1	1	2	0	0	0	16	
NIPPON GAKKI SEIZO KABUSHIKI KAISH	łΑ																
Patents By Year of Grant:	7	0	2	2	1	1	1	2	0	0	0	0	0	0	0	16	
Patents By Year of Application:		0	0	2	0	1	0	0	0	0	0	0	0	0	0	16	
			-	_	•	_	-	_		_			•		•		
ASAHI KOGAKU KOGYO KABUSHIKI KAISH	17																
Patents By Year of Grant:	0	1	1	1	1	0	1	0	0	0	1	2	1	1	5	15	
Patents By Year of Application		1	1	0	0	1	0	0	0	3	1	1	4	1	0	15	
racenes by rear or apprication		_	_	0	0		U	0	· ·	3					0	13	
MINOLTA CAMERA CO., LTD.																	
	3	0	1	0	0	1	0	2	1	0	1	4	2	0	0	15	
Patents By Year of Grant:							2	0	1			0	0	0			
Patents By Year of Application	4	0	0	1	2	0	2	U	1	4	1	U	U	U	0	15	
UNITED TECHNOLOGIES CORPORATION																	
Patents By Year of Grant:	4	0	1	2	2	1	0	1	0	1	3	0	0	0	0	15	
Patents By Year of Application	5	3	2	0	0	0	1	1	3	0	0	0	0	0	0	15	

Organizational Patenting			(Gra	nted: Ja	n 01, 19	77 - Dec	31, 199	6)	Ranked	l List of	Organiz	ations w	ith 10	or More	Patents	3	
	Pre																
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
WESTINGHOUSE ELECTRIC CORP.																	
Patents By Year of Grant:	12	0	0	1	0	0	0	1	1	0	0	0	0	0	0	15	
Patents By Year of Application:	12	0	1	0	1	0	1	0	0	0	0	0	0	0	0	15	
AMERICAN CYANAMID COMPANY																	
Patents By Year of Grant:	9	0	0	1	0	0	2	1	0	1	0	0	0	0	0	14	
Patents By Year of Application:	9	2	0	0	0	2	0	0	1	0	0	0	0	0	0	14	
BAXTER INTERNATIONAL INC.																	
Patents By Year of Grant:	7	1	0	1	1	1	0	0	0	2	0	0	1	0	0	14	
Patents By Year of Application:	11	1	0	0	0	1	0	0	0	0	0	1	0	0	0	14	
DEERE + COMPANY																	
Patents By Year of Grant:	10	1	1	0	0	0	1	0	0	0	1	0	0	0	0	14	
Patents By Year of Application:	12	0	0	0	0	1	0	0	1	0	0	0	0	0	0	14	
CIBA-GEIGY CORPORATION																	
Patents By Year of Grant:	5	2	0	0	0	1	0	0	1	0	0	0	1	2	1	13	
Patents By Year of Application:	7	0	1	0	0	0	0	1	0	0	1	2	1	0	0	13	
DOW CORNING CORPORATION																	
Patents By Year of Grant:	3	1	1	0	2	0	0	0	2	1	0	0	1	1	1	13	
Patents By Year of Application:	5	1	1	0	0	0	1	1	1	0	1	2	0	0	0	13	
EXXON RESEARCH + ENGINEERING CO.																	
Patents By Year of Grant:	6	2	0	2	0	0	0	1	1	0	0	0	0	1	0	13	
Patents By Year of Application:	10	0	0	0	1	0	1	0	0	0	0	1	0	0	0	13	
OUTBOARD MARINE CORPORATION																	
Patents By Year of Grant:	3	0	0	1	1	1	2	1	0	0	1	1	1	1	0	13	
Patents By Year of Application:	5	1	0	0	2	2	0	1	0	0	1	1	0	0	0	13	
ROBERT BOSCH GMBH																	
Patents By Year of Grant:	2	2	1	3	1	0	1	1	0	0	0	0	1	0	1	13	
Patents By Year of Application:	7	2	0	0	1	1	0	0	0	0	1	1	0	0	0	13	
ROCKWELL INTERNATIONAL CORPORATION																	
Patents By Year of Grant:	7	1	3	0	0	0	0	1	0	0	0	0	0	0	1	13	
Patents By Year of Application:	11	0	0	0	0	1	0	0	0	0	1	0	0	0	0	13	
YAMAHA HATSUDOKI KABUSHIKI KAISHA, Y																	
Patents By Year of Grant:	0	0	1	3	0	0	1	0	1	0	1	1	2	2	1	13	
Patents By Year of Application:	2	1	1	1	0	0	0	2	0	1	2	0	3	0	0	13	

Organizational Patenting			(Gra	nted: Ja	ın 01, 19	977 - Dec	31, 199	6)	Ranked	List of	Organiz	ations w	ith 10	or More	Patents	5	
	Pre																
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
GENERAL MOTORS CORPORATION																	
Patents By Year of Grant:	1	1	0	2	0	0	0	0	1	3	2	0	2	0	0	12	
Patents By Year of Application:	2	1	1	0	0	0	1	1	2	2	1	1	0	0	0	12	
HONDA GIKEN KOGYO KABUSHIKI KAISHA	(HONDA MOT	TOR CO.,	LTD.)														
Patents By Year of Grant:	2	0	0	0	0	0	0	0	5	1	2	0	1	1	0	12	
Patents By Year of Application:	2	0	0	0	0	1	3	4	1	0	0	0	1	0	0	12	
HONEYWELL INC.																	
Patents By Year of Grant:	4	2	1	1	0	0	0	2	0	0	0	0	0	1	1	12	
Patents By Year of Application:	8	1	0	1	0	0	0	0	0	0	0	0	1	1	0	12	
MONSANTO CO.																	
Patents By Year of Grant:	8	1	0	0	0	0	1	1	1	0	0	0	0	0	0	12	
Patents By Year of Application:	10	0	0	0	0	0	1	1	0	0	0	0	0	0	0	12	
NEC CORPORATION																	
Patents By Year of Grant:	8	0	0	1	0	0	1	0	0	1	0	1	0	0	0	12	
Patents By Year of Application:	9	0	1	0	0	0	0	0	1	1	0	0	0	0	0	12	
NIGGAN MOMOD GOMDANY I IMIMED																	
NISSAN MOTOR COMPANY, LIMITED Patents By Year of Grant:	1	0	1	2	1	2	0	0	0	0	2	1	1	Ω	1	12	
Patents By Year of Application:	4	1	1	1	0	1	0	1	2	0	0	0	1	0	0	12	
racenes by rear or apprication.	4	1	1	±	U	1	U	Τ.	2	U	U	U	1	U	U	12	
OLIN CORPORATION																	
Patents By Year of Grant:	3	2	0	0	2	0	1	1	0	0	1	0	0	0	1	11	
Patents By Year of Application:	5	0	1	1	2	0	0	0	1	0	0	0	1	0	0	11	
RICOH COMPANY, LTD.																	
Patents By Year of Grant:	1	1	1	0	0	1	0	1	2	0	1	1	0	2	0	11	
Patents By Year of Application:	3	1	0	0	0	0	3	2	0	1	1	0	0	0	0	11	
TOSHIBA CORPORATION																	
Patents By Year of Grant:	0	0	0	0	1	1	1	0	0	0	2	0	2	3	1	11	
Patents By Year of Application:	0	0	1	0	1	1	0	1	1	0	2	3	1	0	0	11	
UPJOHN COMPANY																	
Patents By Year of Grant:	5	0	3	0	0	0	0	1	1	0	0	0	0	1	0	11	
Patents By Year of Application:	7	1	0	0	0	0	2	0	0	0	1	0	0	0	0	11	
BUIL DUOMO BUIN CO TEN																	
FUJI PHOTO FILM CO., LTD	4	0	0	0	0	1	0	2	0	0	1	1	0	1	0	1.0	
Patents By Year of Grant:	4 5	0	0	0	1	1	0	0	1	1	1	0	0	0	0	10 10	
Patents By Year of Application:	5	U	U	1	1	U	U	U	1	1	1	U	U	U	U	10	

Organizational Patenting			(Gra	nted: Ja	n 01, 19	77 - Dec	31, 199	6)	Ranked	List of	Organiz	ations w	rith 10	or More	Patents	s	
	Pre																
	1983	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	TOTAL	
HOECHST AKTIENGESELLSCHAFT																	
Patents By Year of Grant:	4	1	0	1	0	0	0	0	0	0	0	0	0	2	2	10	
Patents By Year of Application:	6	0	0	0	0	0	0	0	0	0	2	0	2	0	0	10	
racenes by rear or approaction.	· ·	· ·	0	J	Ū	· ·	Ū	Ü	Ü	Ü	2	· ·	2	J	Ū	10	
HOFFMANN-LA ROCHE INC.																	
Patents By Year of Grant:	7	1	0	0	0	0	0	0	0	0	1	0	0	1	0	10	
Patents By Year of Application:	8	0	0	0	0	0	0	0	1	0	1	0	0	0	0	10	
MASSACHUSETTS INSTITUTE OF TECHNOLOGY																	
Patents By Year of Grant:	5	1	0	0	0	0	1	0	0	0	1	0	1	1	0	10	
Patents By Year of Application:	6	0	0	1	0	0	0	0	1	0	1	0	1	0	0	10	
NATIONAL RESEARCH DEVELOPMENT CORPORA		0	1	0	0	0	0	0	0	4	1	0	0	0	0	1.0	
Patents By Year of Grant: Patents By Year of Application:	1 6	2	1	2	0	0	1	1	0	1 2	T	2	0	0	0	10 10	
Patents By fear of Application:	0	U	U	U	U	U	1	1	U	2	U	U	U	U	U	10	
OTIS ENGINEERING CORPORATION																	
Patents By Year of Grant:	3	2	0	1	0	3	0	0	0	1	0	0	0	0	0	10	
Patents By Year of Application:	5	1	0	3	0	1	0	0	0	0	0	0	0	0	0	10	
PROCTER + GAMBLE COMPANY																	
Patents By Year of Grant:	2	1	0	0	1	0	1	0	0	0	2	0	2	1	0	10	
Patents By Year of Application:	3	0	1	0	0	1	0	2	1	2	0	0	0	0	0	10	
SCHLUMBERGER TECHNOLOGY CORPORATION																	
Patents By Year of Grant:	3	1	0	0	1	2	0	2	0	0	0	0	0	1	0	10	
Patents By Year of Application:	6	0	1	0	0	2	0	0	0	0	0	0	1	0	0	10	
CLEMBAG AVELDAGEOUT COM EE																	
SIEMENS AKTIENGESELLSCHAFT Patents By Year of Grant:	6	0	1	0	0	0	0	0	0	1	1	0	0	1	0	10	
Patents By Year of Application:	7	0	0	1	0	0	0	1	0	0	0	1	0	U T	0	10	
racenes by rear or Appricacion.	,	U	U	1	U	U	U	1	U	U	U	1	U	U	U	10	
Other Organizations (2614)																	
Patents By Year of Grant:	1239	228	171	164	150	149	160	196	222	160	237	214	202	204	179	3875	
Patents By Year of Application:	1767	129	146	133	154	177	185	209	220	217	199	185	123	29	2	3875	